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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,592	09/05/2003	Makoto Saga	108421-00079	7317

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EXAMINER
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MORILLO, JANELLE COMBS

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/655,592	<b>Applicant(s)</b> SAGA ET AL.	
	<b>Examiner</b> Janelle Combs-Morillo	<b>Art Unit</b> 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 3 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 6, and 7 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. Claim 2 is objected to because of the following informalities: claim 2 (which is dependent on independent claim 1) mentions at least one of V, Zr, and Ni must be present. However, claim 1 states an aluminum alloy “consisting essentially of” Mg, Cu, at least one of Mn, Cr, and Fe, balance Al and inevitable impurities. The transitional phrase “consisting essentially of” limits the scope of a claim to the specified materials or steps “and those that do not materially affect the basic and novel characteristic(s)” of the claimed invention. In re Herz, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). It is unclear if the additional elements listed in claim 2 affect the basic and novel characteristics of the claimed invention, i.e. are excluded by the “consisting essentially of” claim language in claim 1. The examiner suggests amending claim 1 to recite the alloying elements/ranges of claim 2 as an option, or otherwise clarifying. Appropriate correction is required.
2. Claim 6 is objected to because of the following informalities: claim 6 mentions “a weld metal is cooled at a range of 1000 to 8000°C/s”, however, it is unclear that the weld metal that is cooled at this rate is the *said aluminum alloy for rapidly cooled welding*. Additionally, the cooling step takes place “after welding”, however, the instant claim does not specify a welding step. Appropriate correction is required. For the purposes of this action, the examiner has interpreted “a weld metal” to be the instant Al-Mg alloy for rapidly cooled welding.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 60-159145 (JP'145).

JP'145 teaches an Al-Mg alloy with 2.5% Mg, 1.0% Cr, 0.2% Cu (page 4 column 2, ex. 9), which falls within the alloying ranges of instant claim 1. Additionally, JP'145 teaches an Al-Mg alloy with 2.0% Mg, 0.6% V, 1.0% Cr, and 0.1% Cu (page 4 column 2 ex. 17), which falls within the alloying ranges of instant claims 1 and 2.

The phrase “for rapidly cooled welding” as claimed is held to define merely an intended use for the alloy composition. Because the prior art teaches an Al-Mg alloy plate product with superior strength (see abstract), said alloy appears to be capable of performing said intended use as recited in the preamble. See, e.g., *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997), MPEP 2111.02.

JP'145 does not mention the welding joint efficiency. However, “products of identical chemical composition can not have mutually exclusive properties.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties

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applicant discloses and/or claims (such as welding joint efficiency) is inherently present. See MPEP 2112.01.

Because JP'145 teaches examples within the presently claimed alloying ranges, and because said alloys are held to be suitable for the presently claimed intended use, it is held that JP'145 anticipates the presently claimed invention.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by JP 60-159147 (JP'147).

JP'147 teaches an Al-Mg alloy with 1.3% Mg, 0.8% Mn, 1.0% Cr, and 0.2% Cu (page 4 column 1 ex. 5), which falls within the ranges of instant claim 1. Additionally, JP'147 teaches an Al-Mg alloy with 0.8% Mg, 0.6% Mn, 2.0% V, and 0.1% Cu (page 4 column 1 ex. 4), which falls within the alloying ranges of instant claim 1.

The alloy taught by JP'147 is held to be suitable for the presently claimed intended use of "for rapidly cooled welding" because JP'147 teaches an Al-Mg alloy plate product with superior strength (see abstract).

The presently claimed welding joint efficiency is held to be inherently present in the Al-Mg alloy plate product taught by JP'147 (see discussion with regard to JP'145).

Because JP'147 teaches examples within the presently claimed alloying ranges, and because said alloys are held to be suitable for the presently claimed intended use, it is held that JP'147 anticipates the presently claimed invention.

6. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 10-237577 (JP'577).

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JP'577 teaches an Al-Mg alloy for welding with 4.0-7.0% Mg, 0.01-1.5% Mn, 0.01-0.5% V, 0.05-3.0% Ni, and 0.05-0.2% Cu (abstract), which overlaps the presently claimed alloying ranges of claims 1 and 2. Additionally, JP'577 teaches Ex. 11 in Table 1 comprises: 4.5% Mg, 0.85% Mn, and 0.08% Cu, which falls within the ranges of instant claim 1. Also, Ex. 5 in Table 1 comprises of: 6.0% Mg, 1.5% Mn, 3.0% Ni, and 0.06% Cu, which falls within the ranges of instant claim 2.

Concerning the phrase "for rapidly cooled welding", JP'577 teaches that said Al-Mg alloy is suitable for welding. Because the prior art teaches an Al-Mg alloy plate product suitable for welding, said alloy appears to be capable of performing said intended use as recited in the preamble. See, e.g., *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997), MPEP 2111.02.

The presently claimed welding joint efficiency is held to be inherently present in the Al-Mg alloy plate product taught by JP'577 (see discussion with regard to JP'145).

Because JP'577 teaches examples within the presently claimed alloying ranges, and because said alloys are held to be suitable for the presently claimed intended use, it is held that JP'577 anticipates the presently claimed invention.

The presently stated claims are drawn to an aluminum alloy with a compound "consisting essentially of" Mg, Cu, at least one of Mn, Cr, and Fe and do not clearly exclude Sc from said alloy. As stated above, the transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ

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461, 463 (CCPA 1976). The applicant has not shown that the addition of Sc would substantially change the basic and novel properties of said alloy.

***Claim Rejections - 35 USC § 102/103***

7. Claim 6 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP' 145, JP' 147, or JP' 577.

As stated above, the prior art of JP' 145, JP' 147, and JP' 577 are drawn to Al-Mg alloys with ranges of Mg, Cu, and Mn or Cr that fall within the presently claimed ranges. The prior art does not teach the presently claimed process step of cooling 1000-8000°C/s from the melting point to 200°C after welding, substantially as set forth in instant claim 6.

With regard to the process step of cooling 1000-8000°C/s, it is well settled that a product-by-process claim defines a product, and that when the prior art discloses a product substantially the same as that being claimed, differing only in the manner by which it is made, the burden falls to applicant to show that any process steps associated therewith result in a product materially different from that disclosed in the prior art. See MPEP 2113, *In re Brown* (173 USPQ 685) and *In re Fessman* (180 USPQ 524) *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292. Because applicant has not clearly shown that the presently claimed product by process is materially different than the prior art Al-Mg alloy product, it is

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held that JP'145, JP'147, or JP'577 anticipate, or in the alternative, have created a prima facie case of obviousness of the presently claimed invention.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 4, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 56-102562 (JP'562).

JP'562 teaches an aluminum alloy plate comprising (in weight%): 0.3-0.7% Fe, 0.5-2% Mn, 0.5-2% Mg, and optionally 0.01-0.5% Cu and 0.01-0.4% Cr, which overlaps the presently claimed ranges of Mn, Mg, Cu, and Cr and touches the boundary of the instant range of Fe (instant claims 1, 4, 7).

Because the prior art teaches an Al-Mg alloy plate product with superior strength (see abstract, Table 2), said alloy appears to be capable of performing said intended use as recited in the preamble.

Because the prior art teaches a substantially overlapping alloy composition, the properties applicant discloses and/or claims (such as welding joint efficiency) is expected to be present. See MPEP 2112.01.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the



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range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

Because JP'562 teaches an overlapping alloy composition, it is held that JP'562 has created a prima facie case of obviousness of the presently claimed invention.

10. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 09-003582 (JP'582).

JP'582 teaches an aluminum alloy comprising (in weight%): 0.1-0.8% Fe, 0.05-1% Mn, 30.-5.5% Mg, 0.05-0.8% Cu, which overlaps the presently claimed ranges of Mn, Mg, Cu, and Fe (instant claims 1 and 4). JP'582 teaches said alloy contains 1-2% Zn, however, it is not clear said range of Zn is excluded by the "consisting essentially of" language in instant claim 1.

Because the prior art teaches an Al-Mg alloy product with superior strength (see abstract), said alloy appears to be capable of performing said intended use as recited in the preamble.

Because the prior art teaches a substantially overlapping alloy composition, the properties applicant discloses and/or claims (such as welding joint efficiency) is expected to be present. See MPEP 2112.01.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

Because JP'582 teaches an overlapping alloy composition, it is held that JP'582 has created a prima facie case of obviousness of the presently claimed invention.

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11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP'562 or JP'582.

JP'562 or JP'582 are discussed in paragraphs above.

Concerning instant claim 6, which mentions a process step of cooling 1000-8000°C/s, it is well settled that a product-by-process claim defines a product, and that when the prior art discloses a product substantially the same as that being claimed, differing only in the manner by which it is made, the burden falls to applicant to show that any process steps associated therewith result in a product materially different from that disclosed in the prior art. (See MPEP 2113, see also discussion above). Because applicant has not clearly shown that the presently claimed product by process is materially different than the prior art Al-Mg alloy product, it is held that JP'562 or JP'582 has created a prima facie case of obviousness of the presently claimed invention.

### ***Response to Amendment/Arguments***

12. In the response filed on November 10, 2004, applicant amended claim 1 and added new claims 4-7. The examiner agrees that no new matter has been added. The examiner agrees that JP'147 does not teach an example within the alloying ranges of instant claim 2.

13. Applicant's argument that the present invention is allowable over the prior art of record because the prior art does not teach "a welding joint efficiency of not less than 1.0" has not been found persuasive. As stated above, where the claimed and prior art products are identical or substantially identical in structure or composition, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and

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the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

14. Applicant's argument that the present invention is allowable over the prior art of record because instant claim 1 excludes Sc from said alloy, has not been found persuasive. As stated above, the transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). The applicant has not shown that the addition of Sc would substantially change the basic and novel properties of said alloy.

***Allowable Subject Matter***

15. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter: the closest prior art, JP'582 or JP'562, do not teach or suggest the presently claimed Al-Mg-Cu-Fe alloy (with optionally Mn or Cr), complete with the addition of V, Zr, or Ni in the presently claimed ranges.

17. With respect to the alternative expression "at least one kind of" in instant claim 5, alternative expressions are permitted if they present no uncertainty or ambiguity with respect to the question of scope or clarity of the claims. One acceptable form of alternative expression, which is commonly referred to as a Markush group, recites members as being "selected from the group consisting of A, B and C." See *Ex parte Markush*, 1925 C.D. 126 (Comm'r Pat. 1925), see

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MPEP 2173.05(h). The examiner suggests changing "at least one kind of" to "at least one selected from the group consisting of" to be consistent with markush type claim language.

### *Conclusion*

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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January 17, 2005